

CLAIMS

What is claimed is:

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1. A shelter-providing solar tracking assembly comprising:

at least one support structure comprising beams and trusses disposed on at least one vertical support pillar;

at least one drive assembly;

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a least one solar power array disposed on said support structure comprising a plurality of solar panels comprising photovoltaic cells, moveable on a single-axis and attached to said drive mechanism to track movement of the sun, forming an overhead canopy for at least one item disposed beneath said at least one solar power array, and providing electrical power to a building or structure located nearby; and

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an inverter to convert energy from direct current to alternating current.

2. The assembly of claim 1 further comprising a back-up generator.

3. The assembly of claim 1 further comprising at least one battery to store generated

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power.

4. The assembly of claim 1 further comprising at least one electric output connector.

5. The assembly of claim 1 wherein said item comprises at least one vehicle disposed

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beneath said at least on solar power array.

6. The assembly of claim 1 wherein each said at least one support structure comprises a horizontal support comprising connectable ends.

7. The assembly of claim 1 wherein said at least one vertical support structure comprises
5 at least one said drive assembly disposed at a top end of said at least one vertical support structure;
and

wherein each of said at least one vertical support structures not comprising said drive
assembly comprise a rotor bearing assembly.

10 8. The assembly of claim 1 wherein said at least one solar power array comprises at least
two solar power arrays and wherein said at least one support structure comprises at least two support
structures.

9. The assembly of claim 6 wherein said at least one solar power array comprises at least
15 two solar power arrays and wherein said at least one support structure comprises at least two support
structures.

10. The assembly of claim 8 wherein said at least two support structures are connected to
each other longitudinally.

20 11. The assembly of claim 9 wherein said connectable ends of said horizontal support of
said at least two support structures are connected to said at least one drive assembly or said at least
one rotor bearing assembly so that said at least two support structures are linked.